Department of Civil Engineering

Innovative Teaching Method – Inquiry Based Learning

Name of Faculty – Mr. R. C. Patil **Class – BE**

Academic Year– 2023-24 **Semester I**

Name of Subject: ***Transportation Engineering***

Objectives of Methodology:

1. Inquire about the different sign boards in vicinity.
2. Infer the sign boards inquired in vicinity referring IRC-67-2001 (Code of Practice for Road Signs).

Details of Activity/Method:

Activity – Inquire and Infer about the different sign boards in vicinity.

1. Students shall identify different sign boards in the vicinity.
2. Infer the sign boards inquired in vicinity referring IRC-67-2001 (Code of Practice for Road Signs).
3. Prepared report on same.

Assessment Tools & Rubrics:

Roll No.	Name of Student	4	4	2	10
1	AHER PARTH DEEPAK	-	-	-	-
2	AHIRRAO LEENA MAHENDRA	4	3	1	8
3	SINGH ARJUN MAHY PAL	3	3	2	8
4	AWANKAR HARI VIJAY	-	-	-	-
5	BAGUL SOMNATH POPAT	3	2	0	5
6	BHADANGE AVINASH SANTOSH	3	3	0	6
7	BHUSE ISHAA PRASHANT	4	4	0	8
8	CHAUDHARI PALLAVI BHAGWAN	3	3	1	7
9	CHAVAN DIVYA BARKU	4	3	1	8
10	DESHMUKH VAIBHAV KESHAV	3	2	0	5

11	GHUGE PRANAV DNYANESHWAR	3	2	0	5
12	JADHAV PRATHAM VIJAY	4	3	0	7
13	JAGTAP TANISHKA DEVENDRA	3	3	0	6
14	KAPADNIS APURVA ANANT	4	4	0	8
15	KHADANGALE VEDANT MANGESH	3	2	0	5
16	KHAMBAIT AJAY CHANDRAKANT	3	3	0	6
17	MEHETRE AMAN GANESH	3	3	0	6
18	MHAISDHUNE SAHIL VILAS	3	2	0	5
19	PAGAR YUVRAJ HIREN	4	3	0	7
20	PATHAN IMRAN SHAKIL	4	4	0	8
21	PATIL HARSHALI JITENDRA	3	3	0	6
22	RANDHIR PRANJAL SHASHIKANT	4	3	2	9
23	SANGALE HEMANT DATTATRAY	-	-	-	-
24	SANGLE SAKSHI GORAKSHNATH	4	4	2	10
25	SONAWANE BHUVANESH DHANRAJ	4	3	0	7
26	SONAWANE PRANAV RAMAKANT	3	3	0	6
27	SURYAWANSHI ANIKET RAJESH	-	-	-	-
28	UGALE VIKAS RAJENDRA	4	3	1	8
29	VELIS SIDDHANT DNYANESHWAR	3	2	0	5
30	AGRAWAL VINIT SURYAKANT	4	3	0	7
31	AGRAWAL OM SANJAY	3	2	0	5
32	AHER PRADNYA BAPU	3	2	0	5
33	AHER SWATEJ RAGHUNATH	3	2	0	5
34	BACHHAV DARSHAN SUNIL	3	2	0	5
35	BANGAR MANOJ NAVNATH	3	3	0	6
36	BHADANE SURAJ NIVRUTTI	4	3	0	7
37	BHAMARE YOGITA DILIP	3	2	0	5
38	BORAVE VINAY SUNIL	4	3	0	7
39	DEORE ARJUN PRASHANT	-	-	-	-

40	DEORE RITESH RAKESH	4	3	0	7
41	DESHMUKH YASH RAJENDRA	3	2	0	5
42	JADHAV YOGINI DHANRAJ	4	3	2	9
43	KADLAG SANKET SANDIP	3	3	0	6
44	KAKAD ATHARVA MANIK	3	2	0	5
45	KALE SIDDESH SANJAY	3	3	0	6
46	KALOGE ASHUTOSH ANIL	3	2	0	5
47	KARVE PRANAV SANJAY	3	2	0	5
48	MAURYA KAJAL KARAMCHAND	3	3	2	8
49	MHASKE KETAKI BHALCHANDRA	3	3	2	8
50	MUNDAWARE LALIT LATISH	-	-	-	-
51	MUSALE SRUSHTI GIRISH	4	3	1	8
52	NAGAPURE GAYATRI DNYANESHWAR	3	3	2	8
53	PAGAR KALYANI GORAKH	3	3	2	8
54	PATIL MAYURESH SOMNATH	4	3	2	9
55	PATIL PRATIK YOGESH	3	2	2	7
56	PATIL SIDDHESH SUDHIR	3	2	0	5
57	PATIL YASHWARDHAN PRAMOD	4	4	0	8
58	PAWAR NIKITA ANIL	3	3	2	8
59	RAJOLE OM ANIL	4	3	2	9
60	SALUNKE JANAVHI PRAKASH	3	3	2	8
61	SHINDE ROHIT SOMNATH	3	3	0	6
62	SONAWANE ABHISHEK SHRIRAM	3	3	0	6
63	TAJANPURE VAISHNAVI BHARAT	4	3	1	8
64	WAGH RUSHIKESH MADAN	3	2	0	5
65	WANKHEDE SURAJ SANTOSH	3	3	2	8
66	VASAIKAR YOGENDRA PRASHANT	-	-	-	-
67	SHIRSATH ROSHANI SURESH	3	2	0	5
68	KOTHIYA JAYKUMAR JAGDISH	2	2	0	4

Course Outcomes (Related to Methodology)

After the completion of this activity students will be able to:

	Course Outcome	BTL
CO1	Discuss the traffic engineering and control methods.	2

POs (Related to Methodology)

After the completion of this activity students will be able to:

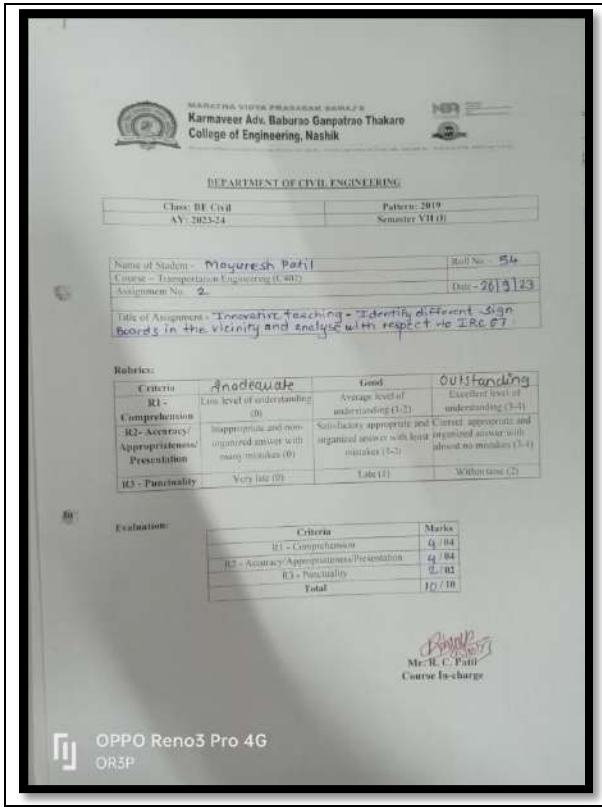
PO1	Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
PO2	Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
PO3	Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
PO4	Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
PO8	Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
PO9	Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO10	Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
PO11	Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
PO12	Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

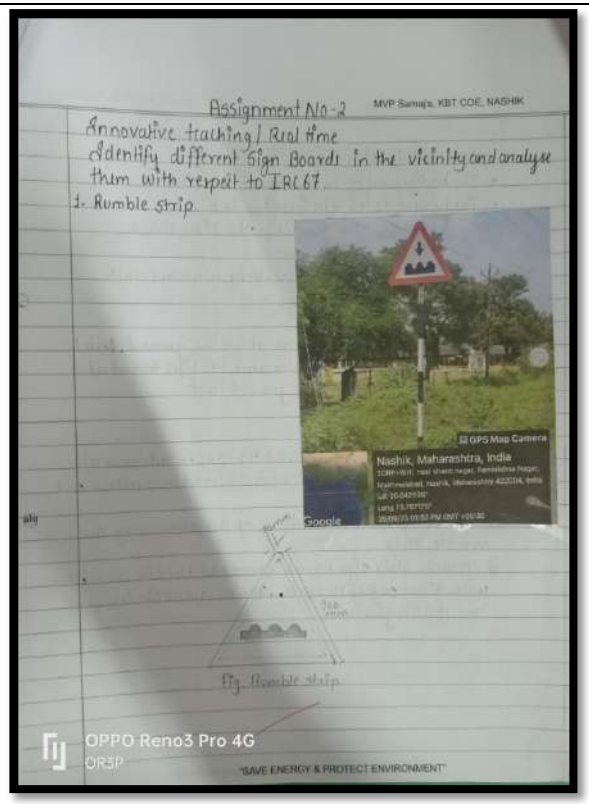
PSOs (Related to Methodology)

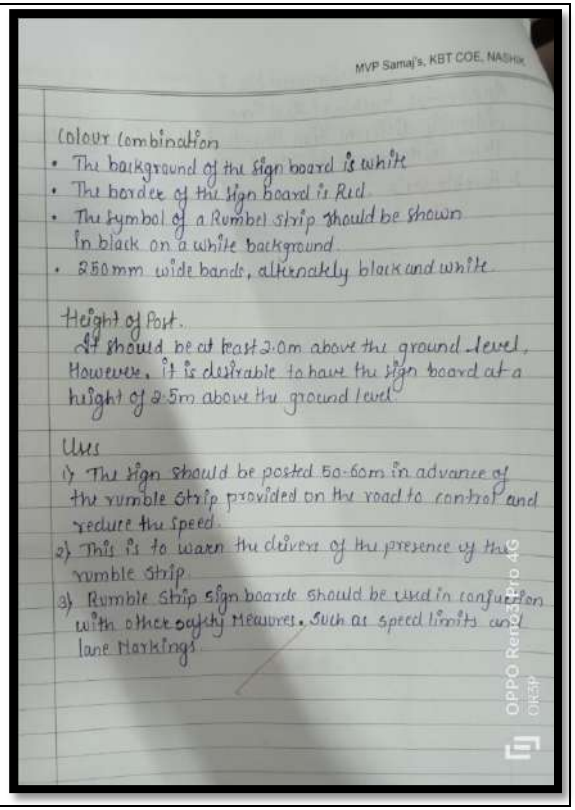
After the completion of this activity

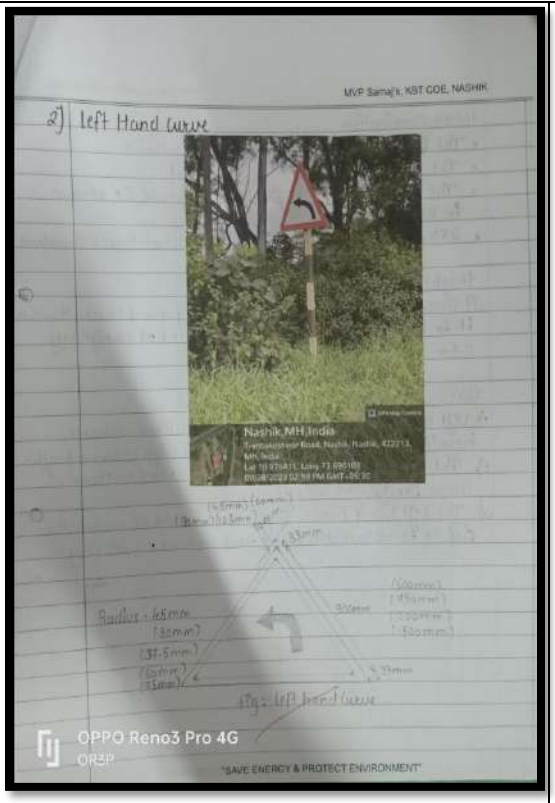
PSO1	Graduates will apply technical knowledge, engineering skills, and competencies necessary for entering civil engineering career.
PSO2	Graduates will demonstrate knowledge and techniques in engineering fields for effective management and professional development.
PSO3	Graduates will apply technical and professional skills to be nationally competitive for employment/self employment thereby benefit the society.

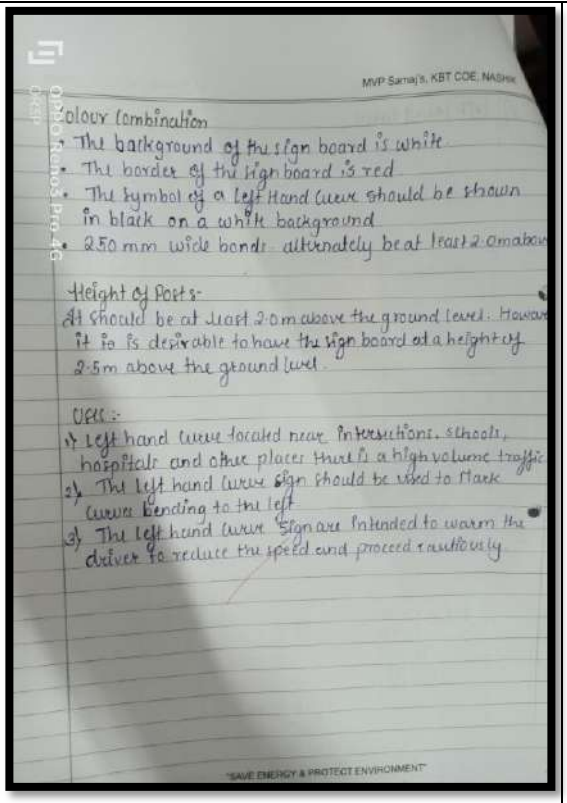
Evidences:

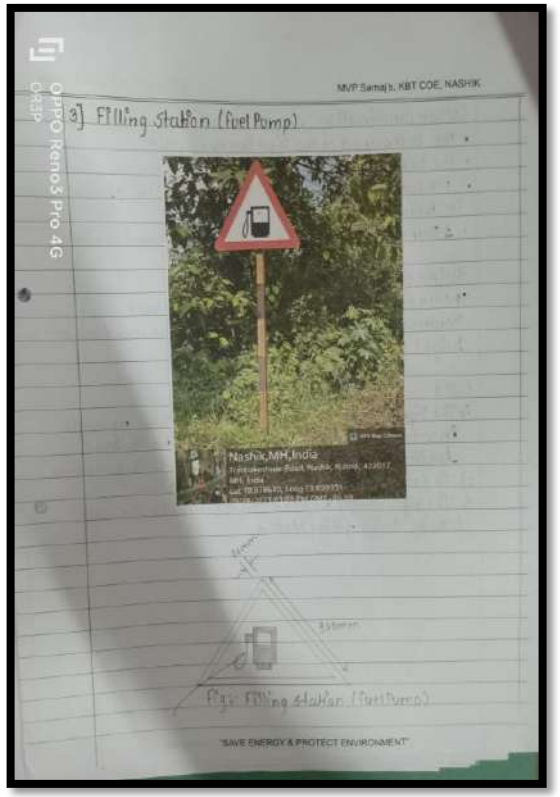


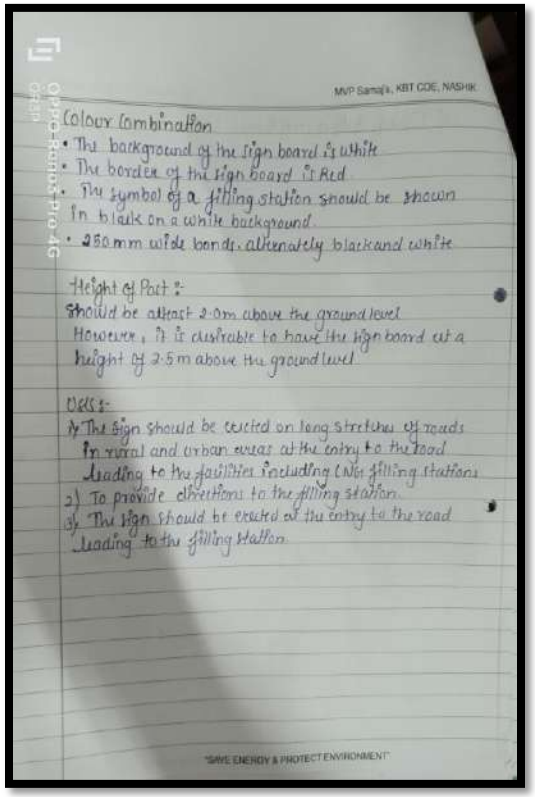


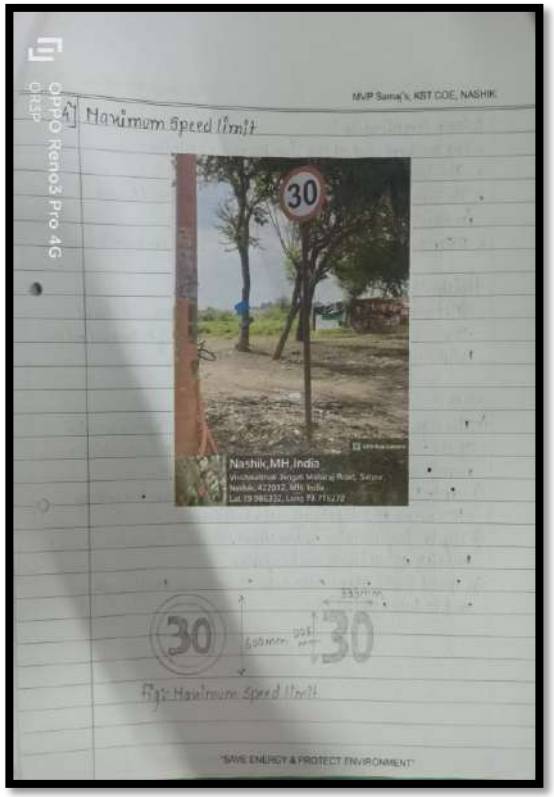


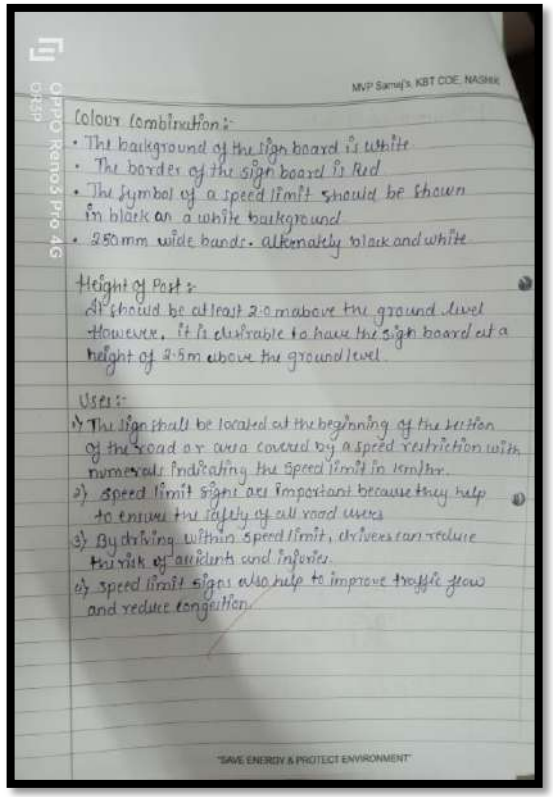

MVP Samaj's, KBT COE, NASHIK
2] Left Hand Curve
Nashik,MH,India
OPPO Reno3 Pro 4G
"SAVE ENERGY & PROTECT ENVIRONMENT"

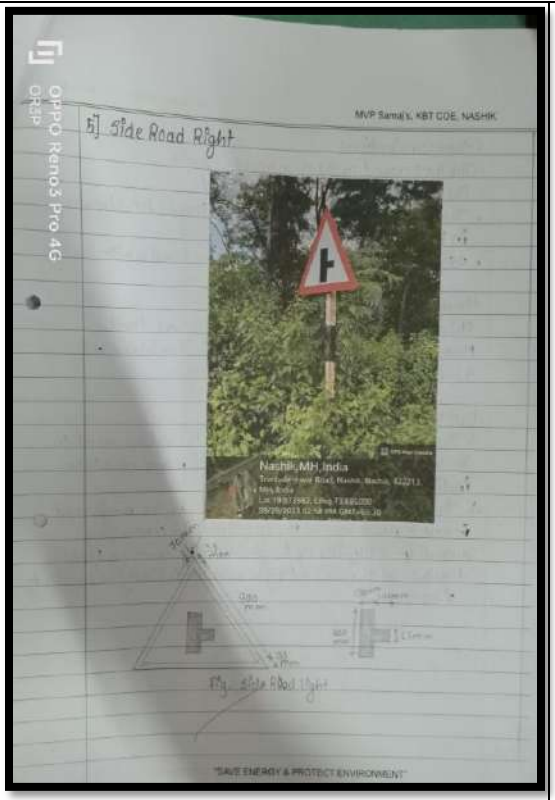

MVP Samaj's, KBT COE, NASHIK
Colour Combination
• The background of the sign board is white
• The border of the sign board is red
• The symbol of a left Hand Curve should be shown in black on a white background
• 250 mm wide bands alternately be at least 2 omabou
Height of Posts-
It should be at least 2.0m above the ground level. Howev it is is desirable to have the sign board at a height of 2.5m above the ground level.
Uses :-
1) Left hand curve located near intersections, schools, hospitals and other places where is a high volume traffic
2) The left hand curve sign should be used to Mark curve bending to the left
3) The left hand curve sign are intended to warn the driver to reduce the speed and proceed cautiously
"SAVE ENERGY & PROTECT ENVIRONMENT"

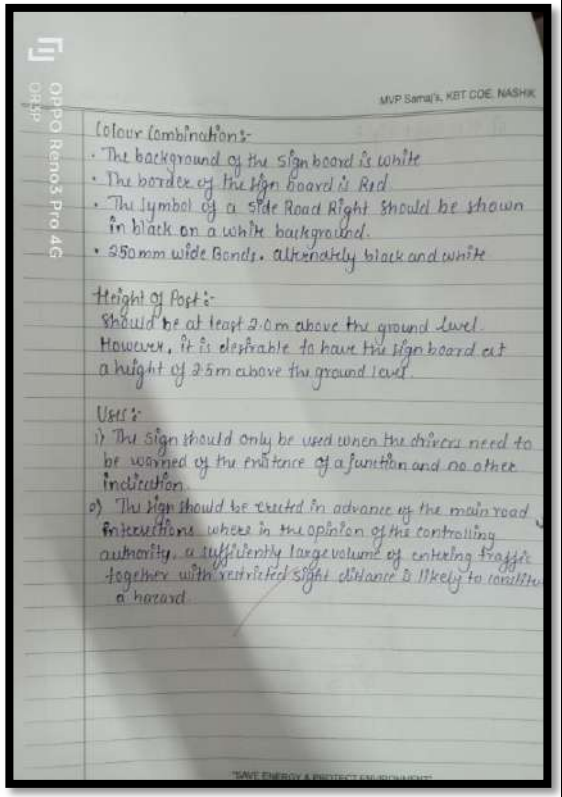

MVP Samaj's, KBT COE, NASHIK
3] Filling Station (Fuel Pump)
Nashik,MH,India
"SAVE ENERGY & PROTECT ENVIRONMENT"

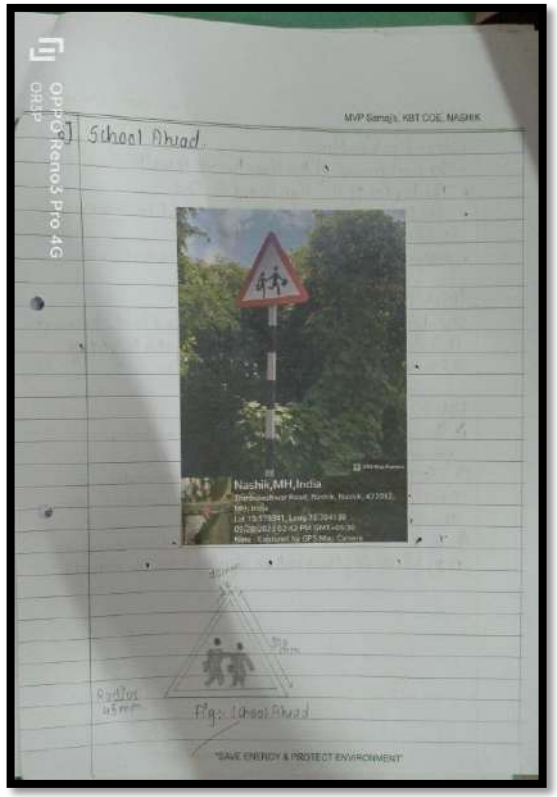

MVP Samaj's, KBT COE, NASHIK
Colour Combination
• The background of the sign board is white
• The border of the sign board is Red
• The symbol of a filling station should be shown in black on a white background
• 250mm wide bands, alternately black and white
Height of Post :-
Should be atleast 2.0m above the ground level
However, it is desirable to have the sign board at a height of 2.5m above the ground level
Uses :-
1) The sign should be erected on long stretches of roads in rural and urban areas at the entry to the road leading to the facilities including CNG filling stations
2) To provide directions to the filling station
3) The sign should be erected at the entry to the road leading to the filling station
"SAVE ENERGY & PROTECT ENVIRONMENT"

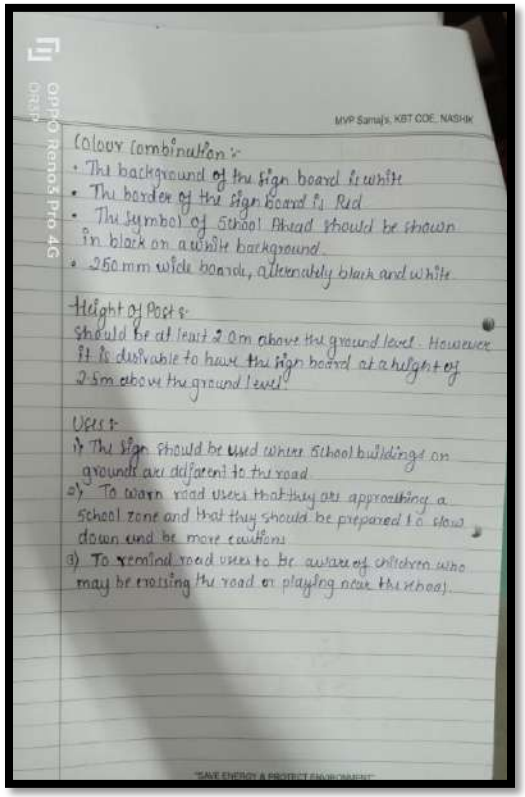

MVP Samaj's, KBT COE, NASHIK
Maximum Speed limit
30
Nashik,MH,India
30
Fig: Maximum Speed limit
"SAVE ENERGY & PROTECT ENVIRONMENT"


MVP Samaj's, KBT COE, NASHIK
Colour Combination :-
• The background of the sign board is white
• The border of the sign board is Red
• The symbol of a speed limit should be shown in black on a white background
• 250mm wide bands, alternately black and white
Height of Post :-
It should be atleast 2.0m above the ground level
However, it is desirable to have the sign board at a height of 2.5m above the ground level
Uses :-
1) The sign shall be located at the beginning of the section of the road or area covered by a speed restriction with numerals indicating the speed limit in km/hr.
2) Speed limit signs are important because they help to ensure the safety of all road users
3) By driving within speed limit, drivers can reduce the risk of accidents and injuries.
4) Speed limit signs also help to improve traffic flow and reduce congestion.
"SAVE ENERGY & PROTECT ENVIRONMENT"


MVP Samaj's, KBT COE, NASHIK
5] Side Road Right
Nashik,MH,India
Fig: Side Road Right
"SAVE ENERGY & PROTECT ENVIRONMENT"


MVP Samaj's, KBT COE, NASHIK
Colour Combinations:-
• The background of the sign board is white
• The border of the sign board is Red
• The symbol of a Side Road Right should be shown in black on a white background.
• 250mm wide Bands, alternately black and white
Height of Post :-
Should be at least 2.0m above the ground level. However, it is desirable to have the sign board at a height of 2.5m above the ground level.
Use :-
1) The sign should only be used when the drivers need to be warned of the existence of a junction and no other indication.
2) The sign should be erected in advance of the main road intersections where in the opinion of the controlling authority, a sufficiently large volume of entering traffic together with restricted sight distance is likely to constitute a hazard.
"SAVE ENERGY & PROTECT ENVIRONMENT"


MVP Samaj's, KBT COE, NASHIK
6] School Ahead
Nashik,MH,India
Fig: School Ahead
"SAVE ENERGY & PROTECT ENVIRONMENT"

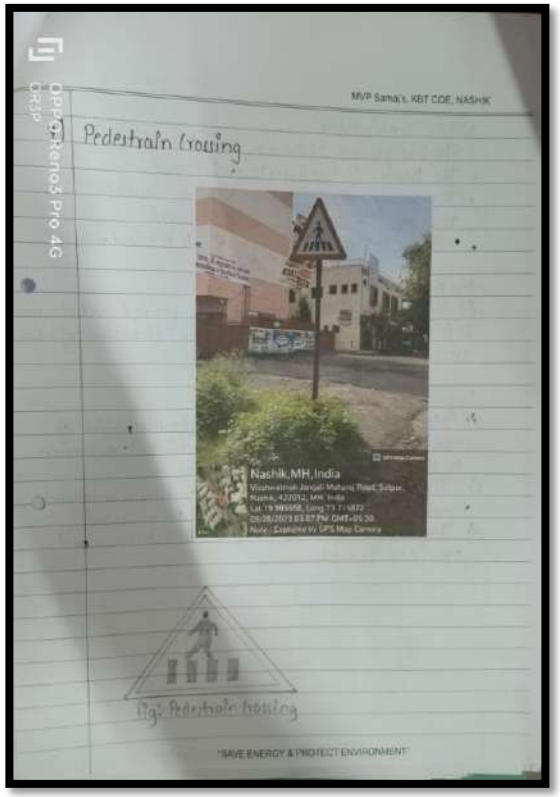

MVP Samaj's, KBT COE, NASHIK

Colour Combination :-
- The background of the sign board is white
- The border of the sign board is Red
- The symbol of School Ahead should be shown in black on a white background.
- 250 mm wide boards, alternately black and white

Height of Post :-
Should be at least 2.0m above the ground level. However it is desirable to have the sign board at a height of 2.5m above the ground level.

Uses :-
1) The sign should be used where School buildings or grounds are different to the road
2) To warn road users that they are approaching a school zone and that they should be prepared to slow down and be more cautious
3) To remind road users to be aware of children who may be crossing the road or playing near the school.

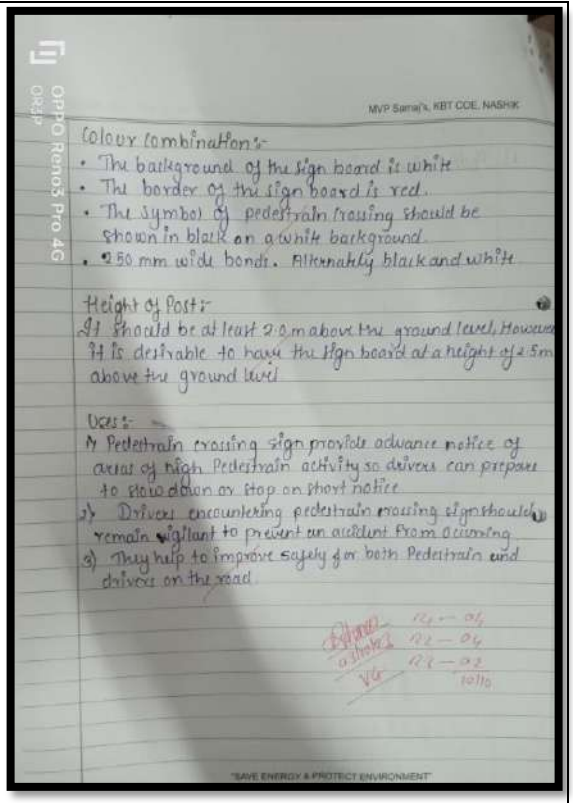
"SAVE ENERGY & PROTECT ENVIRONMENT"


MVP Samaj's, KBT COE, NASHIK

Pedestrain Crossing

Fig: Pedestrain crossing

"SAVE ENERGY & PROTECT ENVIRONMENT"


MVP Samaj's, KBT COE, NASHIK

Colour Combination :-
- The background of the sign board is white
- The border of the sign board is red.
- The symbol of pedestrain crossing should be shown in black on a white background.
- 250 mm wide bands. Alternately black and white

Height of Post :-
It should be at least 2.0 m above the ground level, However it is desirable to have the sign board at a height of 2.5m above the ground level

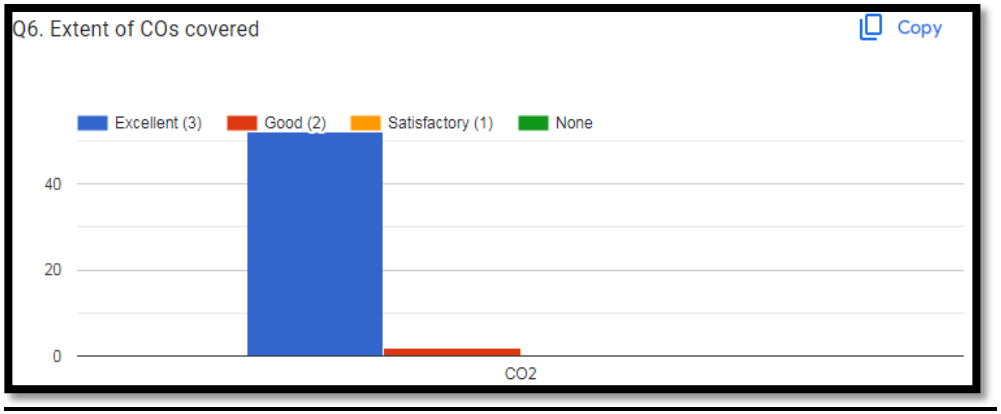
Uses :-
1) Pedestrain crossing sign provide advance notice of areas of high Pedestrain activity so drivers can prepare to slow down or stop on short notice
2) Drivers encountering pedestrain crossing sign should remain vigilant to prevent an accident from occurring
3) They help to improve safety for both Pedestrain and drivers on the road.

"SAVE ENERGY & PROTECT ENVIRONMENT"

Impact Analysis for Outcomes (Based on Students Feedback):

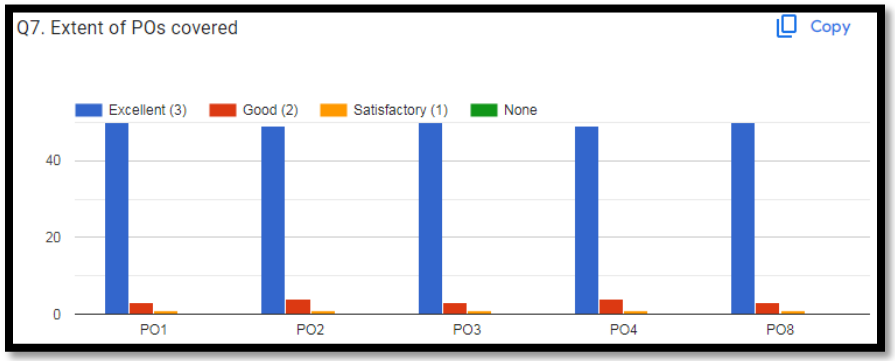
Course Outcome

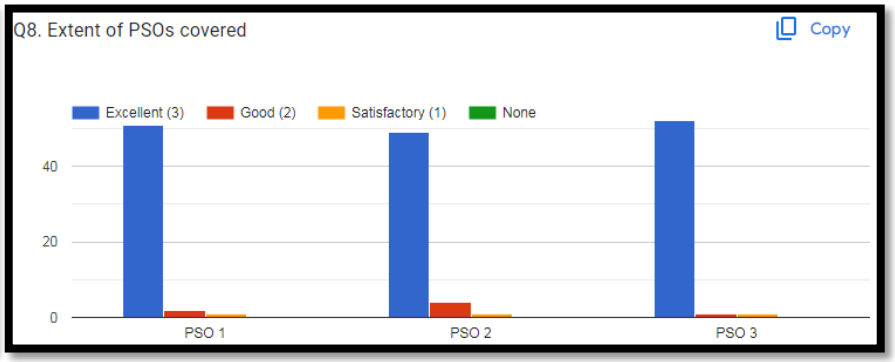
	Course Outcome	CO1
A	No. of Groups/Students Achieving CO	54
B	Total Rating	160
C	Average Rating (B/A)	2.96



Program Outcome

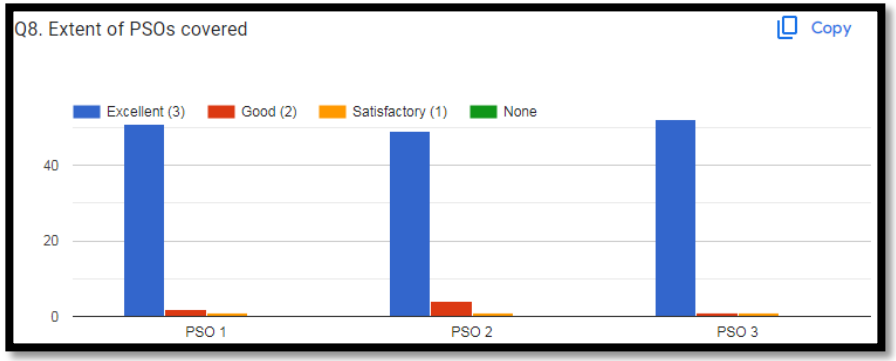
	Program Outcome	PO1	PO2	PO3	PO4	PO8	PO9	PO10	PO11	PO12
A	No. of Groups/Students Achieving PO	54	54	54	54	54	54	54	54	54
B	Total Rating	157	156	157	156	157	156	158	155	158
C	Average Rating (B/A)	2.90	2.89	2.90	2.89	2.91	2.89	2.93	2.87	2.93





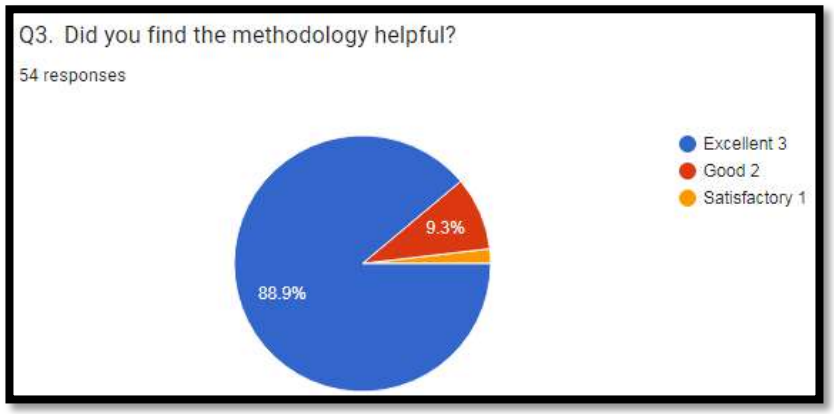
Program Specific Outcome

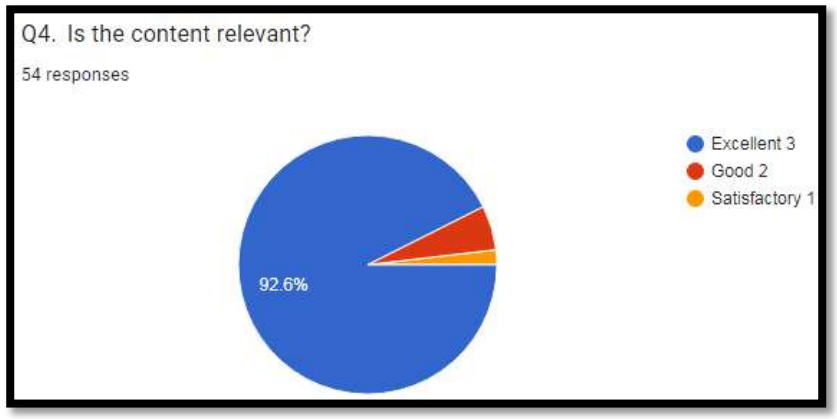
	Program Specific Outcome	PSO1	PSO2	PSO3
A	No. of Groups/Students Achieving PSO	54	54	54
B	Total Rating	158	156	159
C	Average Rating (B/A)	2.93	2.89	2.94

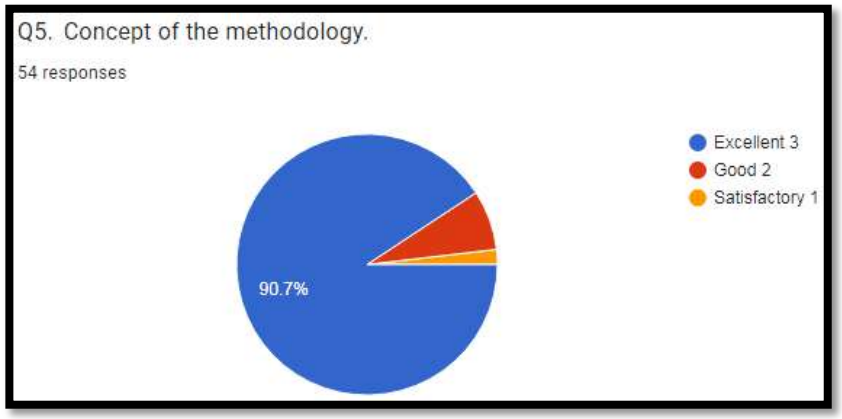


Impact Analysis for Methodology (Based on Students Feedback):

	Rating	Q1. Did you find the methodology helpful?	Q2. Is the content relevant?	Q3. Concept of the methodology.
A	No. of Students	54	54	54
B	Total Rating	155	157	156
C	Average Rating (B/A)	2.87	2.91	2.89







Link for Review and Critics:

https://docs.google.com/forms/d/1xxNShjhx6QwafAR2kZNQoRhnGR_ZSyoCKTUVJCcqvSA/edit

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Mr. R.C. Patil
Course In-charge

Dr. P.D. Nemade
HOD Civil Engg.